

Water innovation: management, society, economy, technology

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Ministry of Economy
Soulful Economy



Israel
NewTech



WATER IS USED FOR...

15,400 liters
of water to make
one kg of BEEF



400,000 liters
of water to build
a CAR



130 liters
of water to make
one cup of COFFEE



THE WATER CHALLENGE

As world population grows and climate changes, some basic resources are becoming scarce.

By 2050

66%

Of the world's population will suffer from shortage of drinking water.

In urban areas

25%

Of the water is being lost due to leaks and network delivery problems.

5%

Of global irrigated land is using drip irrigation.

In developing countries

90%

Of wastewater is discharged untreated into rivers, lakes and oceans.

New Delhi water prices

Private consumer- differential price:

Household consumption (monthly)- CM	Price per CM (US Dollar)
0-10	0.03
10-20	0.05
20-30	0.28
30	0.46



- Municipality and private Water Tanker- ~\$4 Per CM
- Mineral Water- \$70 Per CM

Necessity is the
mother of
Innovation

If it ain't broken
don't fix it



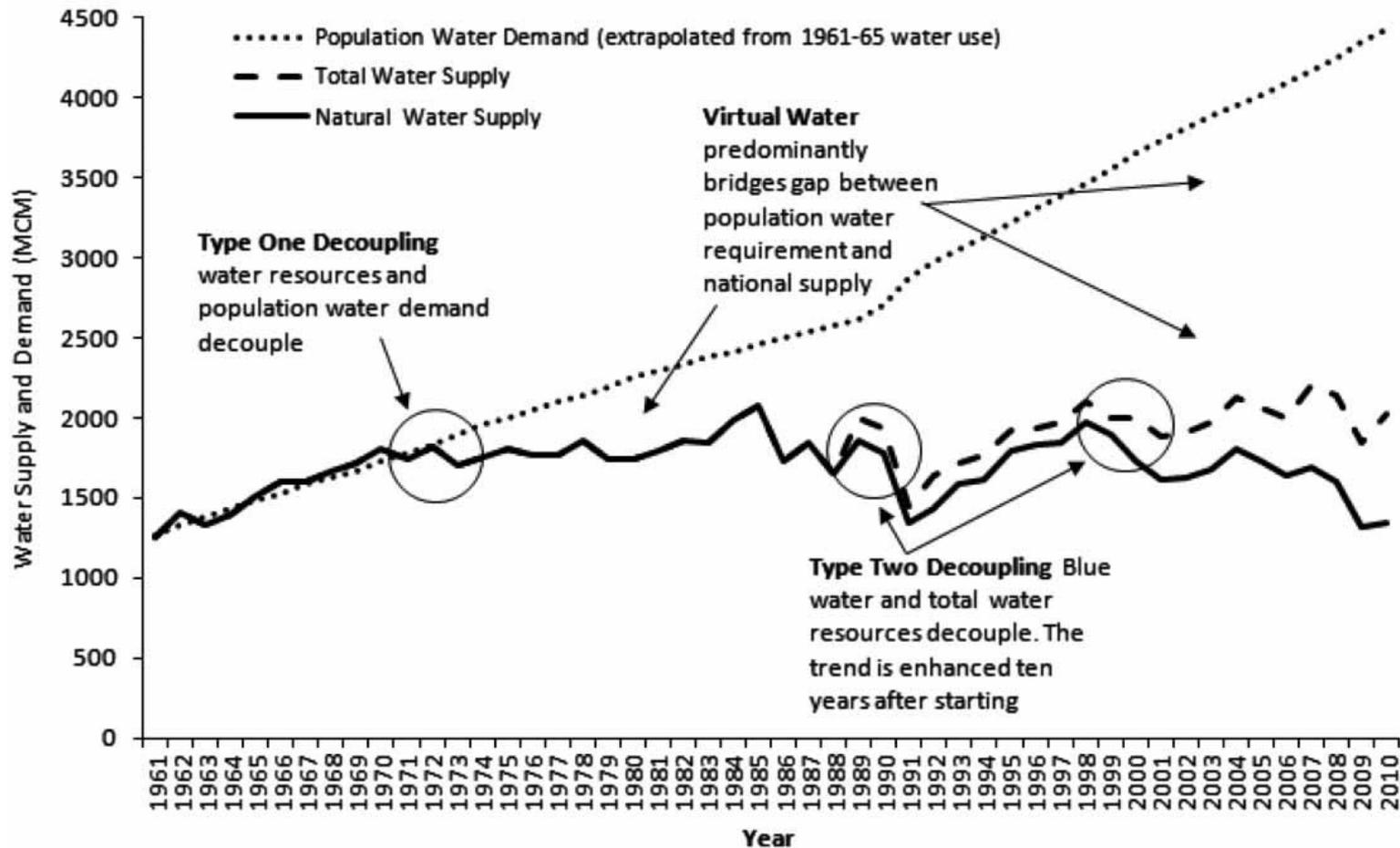
- Inadequate water management
 - Groundwater over pumping
 - High-water consuming crops
 - Low maintenance of water infrastructure -> high NRW
 - New dams (Syria & Turkey)
- When the drought hit
 - 75% of farmers lost their yields, 85% of herds were lost
 - Immigration to big cities
 - Unstable water supply, increased poverty, 20% of population without food security
- A key contributor to the Syrian uprising

WATER - A NATIONAL PRIORITY



WATER DECOUPLING

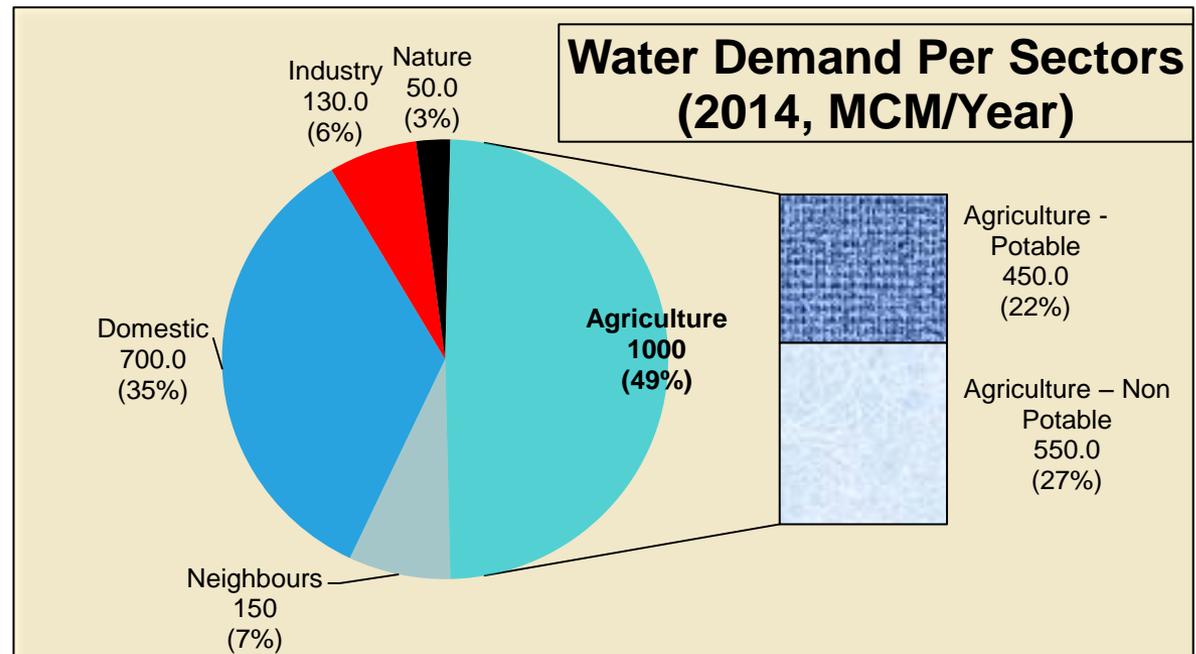
Estimated population water demand, Total Water and Fresh Water Supply 1961-2010



WATER DECOUPLING

- Natural water refill: 1170 MCM (per year)
- Water consumption: 2030 MCM (per year)

- Annual Shortage of over ~45%
- Daily Domestic Consumption Per Capita ~170 Liters

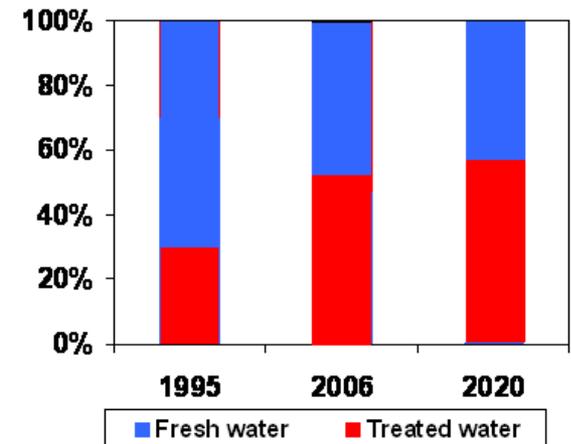


WASTEWATER TREATMENT IN ISRAEL

Annual sewage average:

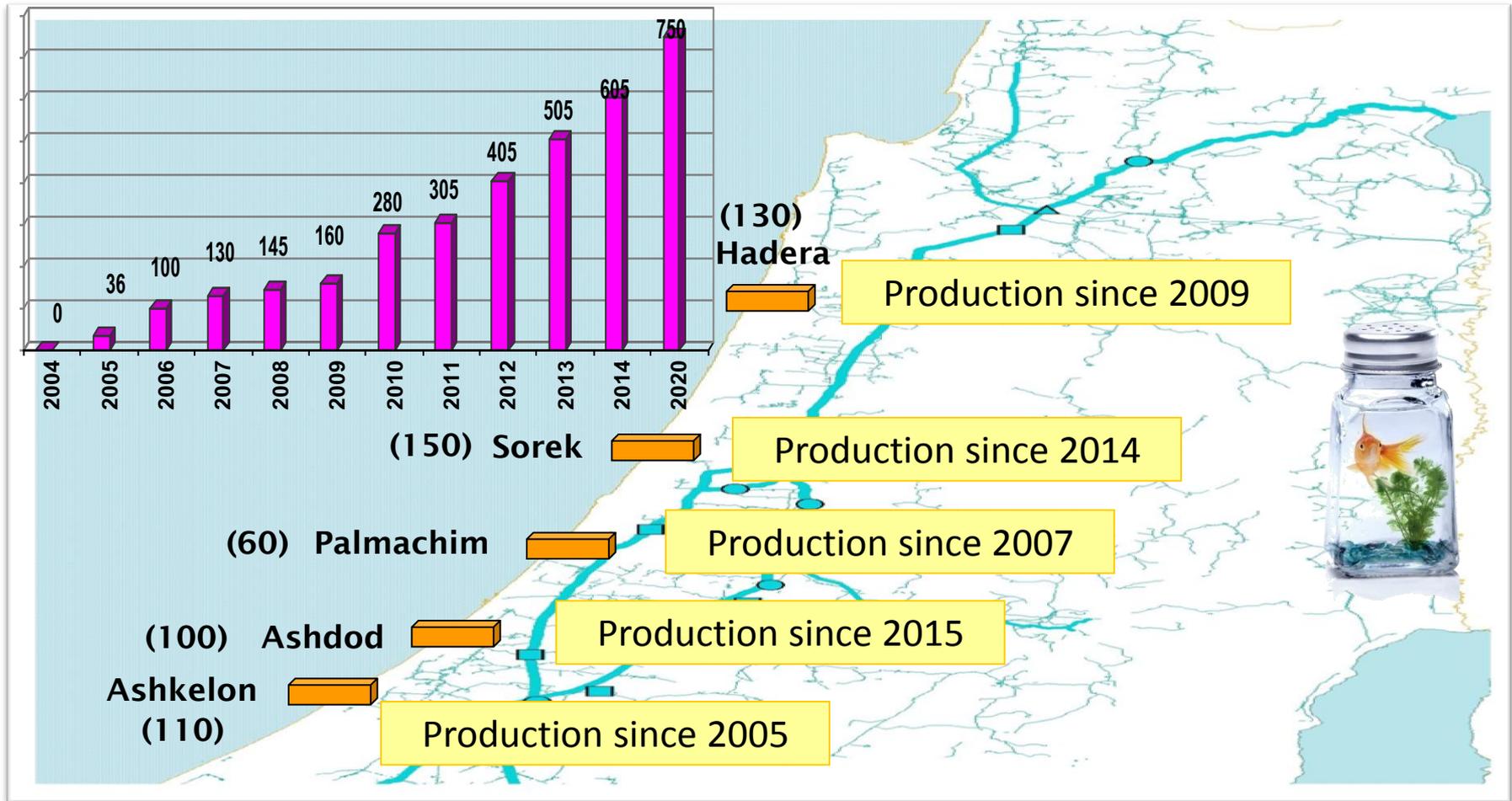
- 508 mcm per year
- 468 mcm is collected and treated (92%)
- 400 mcm is reclaimed for irrigation (85%)

Israel has devoted numerous resources to the development of waste water treatment and reclamation, applying innovative secondary and tertiary treatment.



Desalination in Israel

Desalination plants supply 70% of the domestic water consumption



5 Elements:

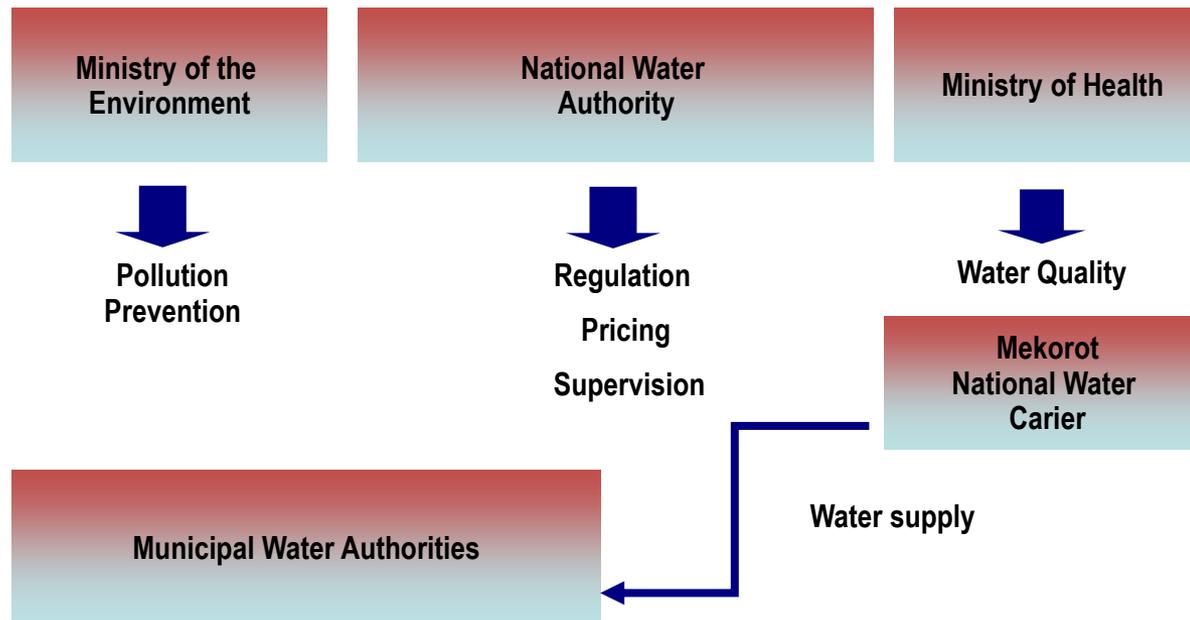
1. Clear Legal Framework
2. Integrated Water Management
3. Water Saving Society
4. Water Economy
5. Technology



(1) LEGAL FRAMEWORK & (2) NATIONAL INTEGRATION

The Water Law 1959 – Legal Basis

- Water is owned by the public and managed by the Government
- Administrative control over all aspects of water use
(Consumption, Allocations, Productions, Pollution, Pricing...).



(3) WATER SAVING SOCIETY

Advertisements



Water Authority Website

(3) WATER SAVING SOCIETY

“...Rain rain go away
come back another day...”

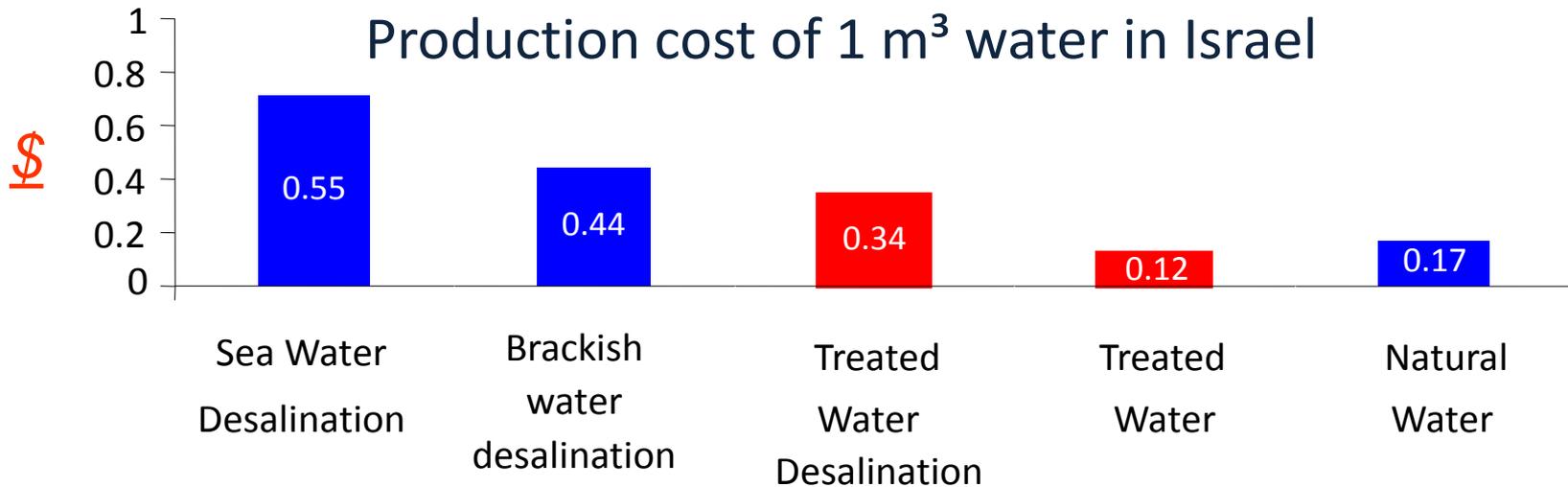


“...גשם, גשם משמיים, כל היום טיפות המים.”

“טיף טף, טיף טף – מחאו כף אל כף!...”

(4) WATER ECONOMY

Water price reflects its real value



Total cost to consumer: 2.23 \$ (under 3.5 m³) / 3.68 \$

(5) WATER TECHNOLOGIES

350 innovative companies

Water management

Water desalination

Irrigation

Urban water solutions

Sector highlights

- Israeli systems account for 50% of the world's low-pressure irrigation systems , reducing agricultural water consumption by one-third.
- Israeli companies have installed more than 350 desalination plants in nearly 40 countries.
- Less than 10% national average for NRW.
- 85% of Israel's wastewater is reclaimed for agriculture – the highest percentage in the world.

Pricing

**Awareness
And
education**

Legislation

Structure

**Business
Models**

**Policy and
Regulation**